

Amendments to the claims.

This listing of the claims replaces all prior versions, and listings, of the claims in the application:

Listing of the claims

Claim 1 (currently amended): A nucleic acid molecule coding for a fusion protein comprising a first polypeptide which is a pestivirus autoprotease N^{pro} ~~or a derivative thereof having the autoproteolytic activity of a pestivirus autoprotease N^{pro}~~, and a second polypeptide which is covalently bound to the first polypeptide at the C-terminus of the first polypeptide in a manner such that the second polypeptide is capable of being cleaved from the fusion protein by the autoproteolytic activity of the first polypeptide, and where the second polypeptide is a heterologous with respect to the first polypeptide.

Claim 2 (previously amended): A nucleic acid molecule according to claim 1, wherein the pestivirus is selected from the group consisting of classical swine fever virus, border disease virus, and bovine viral diarrhea virus.

Claim 3 (previously amended): A nucleic acid molecule according to claim 2, wherein the pestivirus is classical swine fever virus.

Claim 4 (previously amended): A nucleic acid molecule according to claim 3, wherein the first polypeptide comprises the following amino acid sequence:

MELNHFELLYKTSKQKPVGVVEEPVYDTAGRPLFGNPSEVHPQSTLKLPHDRGRGDIRTTLRDL
PRKGDCRSNGNHLGPVSGIYIKPGPVYYQDYTGVPVYHRAPLEFFDEAQFCEVTKRIGRVGTGSDG
KLYHIYVCVDGCILLKLAKRGTPRTLKWIRNFTNCPLWVTSC – (168) (SEQ ID NO: 1).

Claim 5 (currently amended): A nucleic acid molecule according to claim 1, wherein the first polypeptide ~~comprises~~ consists of an amino acid sequence corresponding to the amino acid sequence Glu22 to Cys168 of the autoprotease N^{pro} of classical swine fever virus ~~or a derivative thereof having the autoproteolytic activity of the autoprotease N^{pro} of classic swine fever virus,~~ wherein said first polypeptide has a Cys as C-terminus, and wherein the first polypeptide additionally has a Met as N-terminus, ~~and wherein the heterologous polypeptide is covalently bound directly to said C-terminal Cys.~~

Claim 6 (currently amended): A nucleic acid molecule according to claim 1, wherein the first polypeptide comprises an amino acid sequence corresponding to the amino acid sequence Pro17 to Cys168 of the autoprotease N^{pro} of classical swine fever virus ~~or a derivative thereof having the autoproteolytic activity of the autoprotease N^{pro} of classic swine fever virus, wherein~~

~~said first polypeptide has a Cys as C-terminus, wherein the first polypeptide additionally has a Met as N-terminus, and wherein the heterologous polypeptide is covalently bound directly to said C-terminal Cys.~~

Claim 7 (previously amended): A nucleic acid molecule according to claim 1, wherein the nucleic acid molecule is a DNA molecule.

Claim 8 (previously amended): An expression vector which is compatible with a predefined bacterial host cell, comprising a nucleic acid molecule according to claim 1, and at least one expression control sequence.

Claim 9 (original): An expression vector according to claim 8, wherein the bacterial host cell is an E. coli cell.

Claim 10 (previously amended): An expression vector according to claim 8, wherein the expression vector is a plasmid.

Claim 11 (previously amended): A bacterial host cell comprising a vector according to claim 8.

Claim 12 (original): A bacterial host cell according to claim 11, wherein the host cell is an E. coli cell.

Claim 13 (cancelled).

Claim 14 (new): A nucleic acid molecule according to claim 1, wherein the first polypeptide consists of the amino acid sequence of SEQ ID NO. 1 in which one or more of amino acids 2-21 have been deleted or substituted, and wherein the first polypeptide has a Met as N-terminus.

Claim 15 (new): A nucleic acid molecule according to claim 14, wherein the first polypeptide consists of the amino acid sequence of SEQ ID NO: 1 in which amino acids 2-16 have been deleted.

Claim 16 (new): A nucleic acid molecule of claim 15, wherein the first polypeptide consists of the amino acid sequence of SEQ ID NO: 1 in which amino acids 2-21 have been deleted.

Claim 17 (new): A nucleic acid molecule coding for a fusion protein comprising a first nucleic acid sequence encoding a first polypeptide consisting of an amino acid sequence corresponding to Glu22 to Cys168 of SEQ ID NO. 1 and having a Met as the N-terminus, and a second nucleic acid sequence encoding a second polypeptide which is heterologous with respect to the first polypeptide and is directly covalently bound to the C-terminus of the first polypeptide in a manner such that the second polypeptide is capable of being cleaved from the fusion protein by the autoproteolytic activity of the first polypeptide.

Claim 18 (new): A nucleic acid molecule of claim 14, wherein amino acids 2-16 are replaced by a polypeptide consisting of 10 histadines.